IS-ENES 3 KO Meeting - Technical Breakout Session

Philip Kershaw, 11th January 2019, IPSL, Paris

Topics

1. Search
2. Compute
3. ID Management
4. Security

(Not exhaustive list - just represents the area we had time for. For more complete set see ESGF Future Architecture doc:
https://docs.google.com/document/d/1HtiJee1wSAlSvb0JF7j2COZsThaLz4rmI-0-D8LyO48/edit?usp=sharing)

Search

1. Issues
    a. CoG future
    b. Esgf search is too slow for building search user interface
    c. Solr and use of alternate search backends - ElasticSearch
2. Proposed use of OpenSearch as standard interface for search
3. Vocabularies and vocabulary servers for DRSs - improve user interface content and usability
    a. Versioning
    b. Governance
    c. Interface - REST + JSON-LD serialisation
4. Roadmap
    a. Develop lightweight standalone app for search page - configurable for different projects
    b. Standalone + vocab server
    c. OpenSearch evaluation and integration

Compute

1. Issues
   a. Results cache
   b. Provenance
   c. Assessing 'cost' of jobs before starting
2. Implementations
   a. KNMI used own pyWPS
   b. MAGIC - backend can connect to any WPS - WPS proxy
      i. Copies results into basket in C4I
      ii. pyWPS uses latest WPS std but not 2.0
   c. PCMDI's own WPS implementation - need to understand more about it
   d. CREM made extensions to Birdhouse
3. 1st year - improve deployment arch
   a. C4I WPS - processing needs separate h/w
   b. How to participate in CWT challenge?
4. Workflow management - CWL
5. Delegation issues

ID Management

1. Roadmap
   a. Cert-based auth with OAuth
   b. Replace certs with OAuth access tokens
   c. Improved wget scripts
2. Put proposals/roadmap in architecture doc for the end of the year
3. Identify pilots
   a. client credentials flow with multi step delegation, wget embedded certificate
   b. KNMI - willing guinea pig - experience with technologies: JWT and Google OpenIDConnect

Security

1. Assessment of severity of CVEs and appropriate response
2. Need more effort to support it
3. ESGF scanner - heuristics on package names